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- h.—A basidium with only one sterizma and one spore.  
 i.—Detail of a crop of bristles, showing manner of extrusion, position, etc.

*Michenera artocreas*, B. & C.

- k.—A hypha which has swelled at its tip. The tip is already cut off from the parent hypha by a cross partition. The tip is more granular than the rest of the filament.  
 l.—A tip which has broken from the hypha after the lash-like process from its top has been developed. The walls are still thin and the spore has not been formed.  
 m.—A tip cell whose much thickened walls enclose a dark granular spore (sp). The flagellate tip shows some tendency to curl. The neck of the mother-cell is almost completely closed by the thickening of its walls.  
 n.—A section through the hymenium of *M. artocreas*.  
 I.—Layer in which filamentous paraphyses are the principal elements.  
 II.—Spore-layer, mother-cells of spores lying loosely among filamentous paraphyses.  
 III.—Layer of spore-bearing hyphæ which are separated from each other by paraphyses.  
 IV.—Mycelium at base of hymenium, showing that both paraphyses and sporophores are continuous with ordinary mycelial hyphæ.

CRYPTOGAMIC LABORATORY,  
 Harvard University, June, 1890.

### New or Noteworthy North American Phanerogams.—III.

BY N. L. BRITTON.

*RANUNCULUS PORTERI*, n. sp. § *Batrachium*. Submersed, apparently several feet long, freely branching. Leaves petioled, the petioles  $\frac{1}{2}'$  to  $1'$  long, and dilated at the base, the blade about  $1\frac{1}{2}'$  in diameter repeatedly ternately divided into linear or capillary segments; the upper shorter and broader; flowers white,  $3''$  to  $4''$  broad, peduncled; achenes 6 to 12 in a head, obliquely oval, compressed, somewhat pubescent, marginless, very nearly  $1''$  long, beakless or with a mere apiculation, irregularly rugose transversely; receptacle pubescent.

I noticed this plant in Dr. Porter's Herbarium a year or so ago. The accompanying label has only "Henry's Fork, No. 1062; *Ranunculus*, entirely immersed." It was collected on the Hayden Survey of the territories, but I cannot place the exact locality.

The species differs from any form of *R. aquatilis* with which I am acquainted, in its much broader and fewer leaf-segments and larger achenia. I sent it to Mr. Baker at Kew, who thinks it not related to any European form of that plant, remarking that "no European form ever shows so much transition between float-

ing leaves and capillary leaves as this does." Its affinity with *R. aquatilis* is evident, however, from its beakless, rugose pubescent achenia and hairy receptacle.

I refer here, with considerable hesitation, the plant collected by Professor Greene at Ione, Cal., June 7, 1889, and the species may occur in British Columbia.

*Capsella procumbens* (L.), Fr. Mant. Nov. Fl. Suec. i. 14 (1832). Reichenb. Ic. Flor. Germ. et. Helv. ii. t. xi. f. 4221 (1837).

*Lepidium procumbens*, L. Sp. Pl. 643 (1753).

*Hutchinsia procumbens*, D.C. Prodr. i. 178 (1818).

*Capsella elliptica*, C. A. Meyer, Verzeich. Pflanz. Cauc. 194 (1831).

*Hymenolobus divaricatus* and *H. erectus*, Nutt. in T. & G. Fl. N. A. i. 117 (1838).

*Capsella divaricata*, Walp. Rep. i. 175 (1842).

I was first led to investigate the relations of the Old and New World plants which have been described under the above-cited names from finding them all united in the Kew Herbarium. An examination of the specimens there preserved and subsequent study of an extensive suite at home have convinced me that they are all one species, adding another to the list of circumboreal plants. In Europe it extends south to the Mediterranean region, in Asia to Thibet, and it apparently occurs also in Australia. On our own continent it has been found in Labrador by Mr. J. A. Allen (along the seashore, Dead Islands, lat, 52° 48') and it is widely distributed over the far west as far south as Utah and Lower California.

*Hypericum Canadense*, L. var. *majus*, Gray Man. Ed. 5, 86 (1867).

A study of this plant in the field and herbarium leads me to think that it has good claim to specific rank. Its characters of lanceolate, acute, 5 to 7-nerved leaves, greater size and longer and sharper calyx-lobes seem quite constant. I have not seen it growing with the typical *H. Canadense*. If they could be found together, important evidence might be obtained. I do not propose here to elevate it to specific rank, but only to call attention

to it in the hope that it may be investigated. Its range is given by Prof. Coulter (Bot. Gaz. xi. 110) as "Canada to Pennsylvania, Illinois and about the Great Lakes," but by Watson and Coulter in the 6th edition of Gray's Manual "L. Superior, Robbins, S. New York and southward." These are contradictory. Specimens from Vermont, New Jersey, Illinois and Iowa are preserved in the Columbia Herbarium.

*Calandrinia pygmæa*, A. Gray, Proc. Amer. Ac. viii. 623 (1873).

*Talinum pygmæum*, A. Gray, Amer. Journ. Sci. xxxiii. 407 (1862).

There is an Australian species so named by F. Mueller in Fragm. Phytog. Austr. i. 175 (1858) and recognized by Benth in Flora Australiensis. I would therefore propose for the American plant the name *C. GRAYI*.

*Crotalaria retusa*, L., was collected by Mr. Blodgett on Key West, Florida, many years ago. It does not appear to have been reported from the United States before, but might be expected, as it grows throughout tropical America.

*LOTUS HELLERI*, n. sp. (*Hosackia Purshiana*, Torr. & Gray, Fl. N. A. i. 327 in part). Erect, annual, divaricately branching 1° to 2° high, finely pubescent or glabrous, leafy; branches ascending, 6' to 8' long, slender; stipules; leaves sessile, 3-foliolate; leaflets linear or linear-oblong, acute, entire, the terminal one slightly longer stalked than the lateral ones which are somewhat inequilateral; peduncles 1-flowered, axillary, slender, about 8'' long in fruit, leafy-bracted at the summit; keel yellowish about 3'' long; wings yellowish, tinged with pink; standard pale pink; calyx lobes linear, equalling or slightly exceeding the tube; pod linear, glabrous, 1' to 1¼' long, 1½'' wide, acute, 5 to 6-seeded, deflexed at maturity.

North Carolina (Schweinitz) Mecklenberg Co. (M. A. Curtis) Salisbury, Rowan Co. (A. A. Heller). Named in commemoration of Mr. Heller's recent collecting trip in North Carolina, on which a number of rare and interesting plants were obtained. *Lotus Americanus*, (Nutt.) Bisch. Litt. Ber. Linnæa, 1840, 132, (*Hosackia Purshiana*, Benth.), with which this has been confounded, has larger and broader leaflets, is more villous, and has the calyx more deeply cleft. I believe that it has not been found

east of the Mississippi, but ranges from Minnesota to Sonora. The widely distributed plant of the Pacific Coast, also mixed up with *Lotus Americanus*, appears to me quite distinct, as Nuttall made out, describing it as *Hosackia elata* (In T. & G. Fl. N. A. i. 327) and there may be, as he also thought, several other closely related species in California and the Northwest.

*Psoralea Reverchoni*, S. Wats., Proc. Amer. Acad. xxi. 449, originally described from specimens collected by Mr. Reverchon in western Texas, in 1877, was also found by Dr. Palmer in the Indian Territory, 1868 (No. 72).

*Psoralea corylifolia*, L. is in Dr. Chapman's Herbarium, ticketed "Appalachicola, introduced." It is an Asiatic species, close to *P. dentata*, DC. of southern Europe.

*Cassia crotolarioides*, Kunth, var. *leucophylla*, Benth. There is a specimen so determined in the Kew Herbarium, collected by Prof. Mosely in the Grand Canon, Colorado Plateau, Arizona, 1884. The species is known in north Mexico, and its occurrence in this region might have been expected.

*Ilex montana*, T. and G. var. *MOLLIS* (A. Gray). *Ilex mollis*, A. Gray, Man. Ed. 2. Leaves as in the type, but pubescent beneath. Burgoon's Gap, Penn. (Porter). Pocono Plateau, Penn., collected by myself on the Torrey Club Field Excursion, June 7-10, 1889.

This plant was first referred to *Ilex dubia* (Don.), B. S. P. Prel. Cat. N. Y., but on comparison with typical specimens of this species from the Alleghanies of North Carolina, Georgia and Alabama, it appears hardly possible that this disposition of it is correct. *I. dubia* has broadly ovate, oval or even obovate leaves, which are rarely acuminate and commonly obtuse, and are much more densely and softly pubescent beneath.

*Ilex mollis* was founded on the Pennsylvania plant, and the southern species subsequently referred to it. I am maintaining *dubia* as the specific name of the latter on the authority of Dr. Gray, who probably saw a type of it. But from Don's description of *Prinos dubius*, (Gard. Dict. ii. 20), this would not be certain, and he says it occurs from New Jersey to Carolina, while the plant which I know as *dubia* is not reported north of North Carolina.

*Ilex verticillata* (L.) A. Gray, var. *tenuifolia*, Torr. Fl. North. States, 338 (1824). This variety with thin, obovate leaves, glabrous, except a slight pubescence along the midvein on the under surface, and with mucronate-tipped, appressed teeth, originally collected by Dr. Torrey in the cedar swamp at New Durham, has recently been collected by Mr. W. M. Whitfield at Mt. Washington, Berkshire Co., Mass.

Var. *padifolia* (Willd.), T. and G. in S. Wats. Bibliog. Index, i. 220, is distinguished from the type by its smaller, thicker (almost coriaceous), broadly oval or nearly orbicular leaves. The original specimen in Herb. Torrey came from Lake Erie. The plant is common on the Pocono Plateau of Pennsylvania.

Professor Trelease, in his review of North American species of *Ilex* in Trans. St. Louis Acad. Sci. Vol. V., does not recognize either of these varieties, but they appear to me certainly well-marked enough to warrant consideration.

*SPIRÆA VIRGINIANA*, n. sp. A glabrous shrub, the branches forming long wands, erect or reclining, 1°–4° long. Leaves oblong or slightly oblanceolate, thin, obtuse or short-pointed at the apex, rounded or cuneate at the base, 1½'–2' long, 5''–8'' wide, green above, pale beneath, entire or with a few low serrations in the upper half; petioles 2'' long; pedicels and peduncles pale and glaucous; flowers about 2'' broad, in terminal compound corymbs 1'–3' across; calyx teeth 5, triangular, blunt, about the length of the short-campanulate tube, distinctly glaucous; petals 5, white, ovate-orbicular, obtuse, stamens 15–20, persistent; styles 5–6; follicles in the specimens examined 5–6, apparently sterile, included in the persistent calyx.

On damp rocks along the Monongahela River, Morgantown, West Virginia, collected by Dr. C. F. Millspaugh in flower, June 20th, 1890, and in apparently imperfect fruit late in September. Collected also by Mr. G. R. Vasey in the mountains of North Carolina, 1878.

*Spiræa betulæfolia*, Pall. and *S. corymbosa*, Raf., have much longer follicles exserted beyond the calyx, broader, thicker and dentate leaves, and are different in habit. Rafinesque published a number of species in his New Flora, but none of them can apply to this one.

LUDWIGIA ALTERNIFOLIA, L., var. LINEARIFOLIA, n. var. Two or three feet high, divergently branched, the branches ascending. Leaves linear, elongated, 2'-4' long, 1½"-4" wide, acute; flowers solitary in the axils of the upper leaves or bracts, yellow; sepals ovate-lanceolate acute, narrower than those of *L. alternifolia*; branches and both sides of the leaves somewhat pubescent. Petals apparently remaining on the plant longer than those of *L. alternifolia*, which, as Dr. Millspaugh observes, commonly fall away when the plant is shocked.

Appearing very distinct from typical *L. alternifolia*, but presumably but a variety of it. From the description it may be the *Rhexia linearifolia*, Poir. in Lam. Encycl. vi. 2, said to come from Carolina.

*Leontodon hirtus*, L., long known from the ballast grounds of the eastern seaports, is becoming more widely adventive. It has recently been collected in Southern New Jersey by Dr. J. E. Peters, at Cold Spring Harbor, Long Island, by Mr. Geo. D. Hulst, and on Vancouver Island, British Columbia, by Prof. Macoun. It certainly claims recognition as an adventive plant.

*Populus heterophylla*, L. Another locality for this rare tree in the Middle States has been discovered by Rev. L. H. Light-hipe, near Woodbridge, Middlesex Co., N. J. The stations now known for it at the north, besides those given in my "Catalogue of Plants from New Jersey," and its somewhat wide distribution on Staten Island, are Northport, Long Island, and Guilford, Conn., as recorded by Professor Sargent in his Forestry Report in the Tenth Census.

*Eriocaulon Körnicikanum*, Van Heurck et Muell. Arg. Obs. Bot. 101 (1870). This species does not appear to have been alluded to by any American author. I know nothing more about it than the description given by the above named authors. The plant was collected in eastern Texas by Chas. Wright, and is mentioned here only to call it to the attention of our botanists. It can hardly be Drummond's No. 409 (second coll.), which I take to be *E. Benthami*, Kunth., although without sufficient examination to warrant certainty.

*Cyperus phaeocephalus*, Griseb. Plant. Lorentz. 216 (1874), may be reported from mountains between Mazatlan and Durango,

Mexico, collected by Mr. Forrer in 1887. Specimens were sent me by Prof. Greene. It occurs along the Andes of South America from Ecuador to Argentina. (Spruce, 5,904; Mandon, 1,394; Rusby, 100).

CYPERUS BLODGETTII, n. sp. Section Mariscus. Perennial, from a tuberous thickened base, 8'-9' high. Roots fibrous; leaves linear, 3'-4' long, about 1'' wide, glabrous, smooth on the edges; culm sharply triangular; involucre of about three leaves, 1'-2½' long; inflorescence of 1-3 dense globose heads, 5''-8'' in diameter; spikelets 20-40, 6-10-flowered, the lowest glume empty, the others fertile; glumes keeled, oval or ovate, obtusish, strongly about 9-nerved, about ½'' long; achenium oblong, about two-thirds the length of the glume, triangular; falling away with the glumes from the rachis at maturity; rachis strongly scarred with the bases of the flowers; stamens three?

Key West, Mr. Blodgett (Herb. Torrey and Herb. Gray).

I went over this species with Mr. Clarke at Kew in 1888 and we decided that it must be new. Mr. Clarke, maintaining that *Mariscus* is distinct as a genus from *Cyperus*, proposed calling it *M. avenicola*, and if this view is to be adopted, the plant may bear this name. But I have not been able to agree with him in this respect. The species appears nearest to *C. Grayii*.

#### The Flora of the Summit of Mt. Monadnock, N. H., in July.

Mt. Monadnock lies in Cheshire County, in the southwestern part of New Hampshire, and can be reached in four hours from Boston, Mass., thus bringing a most interesting botanical region within easy access to lovers of botany. A few words as to the vegetation on the immediate summit may prove of interest. The mountain is 3169 feet high and rears its bald head into the sub-alpine region, thus presenting botanical features much resembling those about the Half Way House, on Mt. Washington, New Hampshire.

I visited the top of Monadnock, July 22nd, 1889, on a beautiful clear day. The thick woods that clothe the slopes of the mountain cease within a half mile of the summit and the bold, bare rocks, with many an overhanging cliff, afford no easy ascent, though a rough pathway has been traced to the top for visitors to the Mountain House, which lies nestled among the trees a mile